

## FREEZING METHOD AND DEVICE

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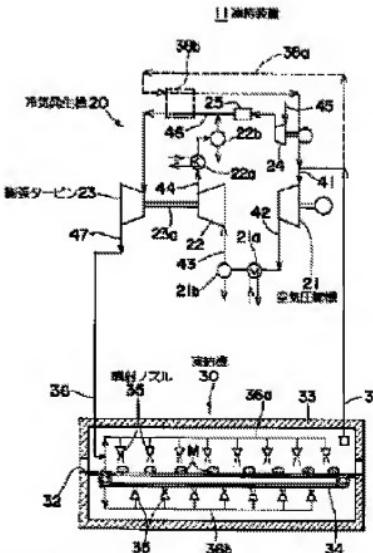
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### Abstract of **JP10267444**

**PROBLEM TO BE SOLVED:** To perform high-efficient freezing of a substance to be frozen and to shorten a freezing time by a method wherein cold air generated by a cold air generator to generate cold through heat insulation and expansion of compressed air is fed to a freezer, and direct injection is effected on the substance to be frozen through an injection nozzle to freeze the substance to be frozen. **SOLUTION:** When freezing of a frozen food is effected, after hot air recovered by a hot air recovery route 37 is compressed by an air compressor 21, cooling is effected by a cooler 21a, further boosting is effected by a booster compressor 22 and cooling is effected by a cooler 22a. Meanwhile, after in an auxiliary air compressor 24, the atmosphere is compressed and cooled by a cooler, the atmosphere is dried by a drier 25. Boosting air from a drain separator 22b and auxiliary air from the drier 25 are confluent to each other and heat-insulated and expanded by an expansion turbine 23 and outputted as cold air having temperature of approximate -80 deg.C. The cold air is fed to a freezer 30 at own pressure from a cold air generator 20 through a cold air feed route 36, and injected against a frozen food M through injection nozzles 35... in a heat insulation tunnel 33.



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